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EX PARTE OR LATE FILED

April 9, 1999

Via Courier

Ms. Magalie R. Salas
Secretary
Federal Communications Commission
445 Twelfth Street, S.W.
Washington, D.C. 20554

Re: ET Docket No. 97-214

Dear Ms. Salas:

Leo One USA Corporation ("Leo One USA"), by counsel, provides additional information relating to the above-captioned proceeding. Specifically, a question has been raised whether Non-Voice Non-Geostationary Mobile Satellite Service ("NVNG MSS") uplinks operating in the 459.700 - 460.000 MHz band would cause annoyances to an Air-to-Ground Radiotelephone Service ("ATGRS") system operating in the same band. Particular concern has been expressed that if the ATGRS receiver squelch were to be broken, a false alert might be sent to an operator expecting a voice request to place a call. In such a case, the responding operator may hear interference from the NVNG MSS packet of data communication instead of the voiced call destination number. As discussed below, Leo One USA has learned that this interference scenario can not happen because the operator alert in the ATGRS system is not activated until after a carrier is received for five seconds. Thus, a 450 ms NVNG MSS transmission will not produce false alerts to the operators in the ATGRS network.

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In order to determine if the NVNG MSS and ATGRS can operate compatibly, we first determined the carrier levels and durations of signals that would break squelch. In evaluating this issue, it was assumed that the AGRAS (Air-Ground Radiotelephone Automated Service)[1] operates with the following characteristics:[2]

- Receiver sensitivity is -110dBM for 12dB SINAD in the voice output.
- The AGRAS signals with their tone codes automatically place the calls into the terrestrial telephone system.
- The AGRAS signal is recognized as a call generation that does not require operator assistance and intervention.
- The AGRAS antenna gain is 6 - 10 dB.
- The AGRAS receiver sensitivity is 0.6 - 0.8 micro volts.
- The AGRAS antenna pattern is horizontal.
- The AGRAS antenna polarization is vertical.
- The antenna height is 20 - 50 feet above ground.

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[1] AGRAS is an automated ATGRS system that places calls with no operator assistance. Tone codes on the transmitter perform the call placements much as in tone dialing in the terrestrial telephone system. The operator enters into the ATGRS system because all AGRAS stations are required to maintain compatibility with the older, operator assisted, voice placement of calls. The automatic part of an AGRAS receiver will not respond to a Mobile Earth Station ("MES") transmission because of the lack of appropriate tone codes. If an AGRAS receiver receives carrier energy without the appropriate AGRAS codes, it recognizes this as a possible initiation of a request for service from an aircraft with the older, manual equipment.

[2] Leo One USA obtained this information from the AGRAS system specification (*Technical Reference, Air-Ground Radiotelephone Automated Service (AGRAS) System Operation and Equipment Characteristics*, April 12, 1985) and through telephone conversations with ATGRS equipment manufacturers, service providers and systems operators.

A review of the record in this proceeding reveals that there is no information on squelch sensitivity or the duration of the carrier required to break the squelch. During Leo One USA's due diligence, it was learned that action to alert an ATGRS remote operator is initiated only after the AGRAS receiver receives a non-coded carrier at a sufficiently high level for approximately five seconds. This means that an AGRAS switch will only begin dialing the operator to connect the voice output from the receiver after five seconds of a carrier being present.[3] The five second "time out" period is a standard for AGRAS switches, and replacement equipment is manufactured with this five second period (non-adjustable).

As Leo One USA has stated previously it supports the application of US323 to the 455 - 456 and 459 - 460 MHz bands as means to eliminate interference between the NVNG MSS and ATGRS. Specifically, US323 constrains any individual mobile earth station to (i) transmissions of no longer than 450 ms, (ii) total use of no more than 1% of the time during any 15 minute period, and (iii) separate consecutive transmissions on the same frequency must be at least 15 seconds apart. With these constraints, no individual NVNG MSS earth station transmission could produce a false alert to an operator in the ATGRS system. This is because the NVNG MSS 450 ms transmission limit is significantly less than the ATGRS five second "trigger" period.

Given the above information and lack of evidence in the record of this proceeding to the contrary, Leo One USA submits that the NVNG MSS and ATGRS can successfully share the 459.700 - 460.000 MHz band.

Respectfully submitted,

Robert A. Mazer
Counsel to Leo One USA Corporation

RAM:dks

cc: Parties of Record

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[3] As a practical matter, the manufacturer of replacement switches indicated that setting the "time out" period to twenty seconds would reduce the number of false triggers that result from inter-modulation and other interference effects that already occur in the existing ATGRS.

CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of the foregoing Letter to Magalie R. Salas was sent by first-class mail, postage prepaid, this 9th day of April, 1999, to each of the following:

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